STATE OF CALIFORNIA | Public Utilities Commission
San Francisco

**M e m o r a n d u m**

**Date:** May 10, 2016

**To:** The Commission
(Meeting of May 12, 2016)

**From:** Hazel Miranda, Director
Office of Governmental Affairs (OGA) – Sacramento

**Subject:** **AB 1530 (Levine) – Electricity: distributed generation.**
**As amended: April 26, 2016**

**RECOMMENDED POSITION:** OPPOSE

**SUMMARY OF BILL**

AB 1530 would establish a definition of 'clean distributed energy resources' (Clean DER) and would exempt customers who install Clean DERs from paying nonbypassable charges for electricity generated and consumed on site. It would also change the way standby charges are calculated for these customers. Specifically, this bill:

- Defines 'clean distributed energy resources,' as customer-sited combined heat and power systems or generating systems sized at 15 megawatts (MWs) or less, that either meet certain emissions standards or meet the eligibility requirements for 'renewable energy resources', but are not net-metered systems.
- Allows customers with Clean DER to pay all nonbypassable charges based on their actual metered consumption from the electric grid rather than gross consumption.
- Requires customers with Clean DER to be subject to standby charges, as applicable, based on the calculated capacity needed to serve a customer's electrical demand during an outage of the clean distributed energy resource.
- Requires tariff changes to be made by July 1, 2017 and applies to projects installed after January 1, 2016. Eligibility for new projects would end December 31, 2020.
- Requires customers served by Clean DERs to provide relevant data annually to the CPUC and ARB and be subject to onsite inspection.
- Requires the CEC, in consultation with the CPUC, to report on impacts of the bill in the integrated energy policy report to be filed on November 1, 2018 and November 1, 2019.

## CURRENT LAW

- Requires customers that leave the utility by self-generating at least some of their electricity needs to pay a range of departing load charges, or exit fee power charges (specifically, public purpose program charges, the Department of Water Resources (DWR) bond charge, competitive transition charge, and nuclear decommissioning charge). Collectively, these fees are called 'nonbypassable' charges and, except for net metered customers, are paid based on the installed nameplate capacity of the system. Some exceptions and exemptions apply:
  - Customer-generators that participate in net energy metering (NEM) pay nonbypassable charges based on their net annual load, and future "NEM successor tariff customers" will pay based on their total consumption of grid power.
  - Systems up to 5 MW in size that are eligible for clean incentives from the CPUC or CEC have been exempt from paying a subset of nonbypassable charges called the Cost Responsibility Surcharge (specifically, DWR bond charge and competitive transition charge) for up to the first 1 MW of generation.[1]
  - Ultra-clean and low-emission systems[2] above 1 MW are not required to pay future DWR charges or utility under collection charges.

- Requires non-residential customers who self-generate to pay standby charges based on the capacity of the generator, unless the customer operates a solar generating facility sized at 1 MW, or less, or participates in NEM.

- Provides monetary incentives through the Self-Generation Incentive Program (SGIP) to support existing, new, and emerging distributed energy resources installed on the customer side of the utility meter. Qualifying technologies must achieve greenhouse gas emission reduction thresholds and include wind turbines, waste heat to power technologies, pressure reduction turbines, combined heat and power, internal combustion engines, microturbines, gas turbines, fuel cells, and advanced energy storage systems.

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[1] The exemption expires when the cumulative total of Customer Generation Departing Load (CGDL) eligible under the Customer Generation Cap exceeds 3,000 MW, as determined on a first-come, first-served basis by the California Energy Commission. On 2/12/15 the Energy Commission e-mailed the IOUs that the 3,000 MW cap had been reached. Subsequently, the IOUs filed Advice Letters to modify their CGDL rate schedules to eliminate the exemption.

[2] PU Code Section 353.2 defines "ultra-clean and low-emission distributed generation" as any electric generation technology that meets both of the following criteria:

(1) Commences initial operation between January 1, 2003, and December 31, 2008.

(2) Produces zero emissions during its operation or produces emissions during its operation that are equal to or less than the 2007 State Air Resources Board emission limits for distributed generation, except that technologies operating by combustion must operate in a combined heat and power application with a 60-percent system efficiency on a higher heating value.

## AUTHOR'S PURPOSE

The author's stated purpose is to promote the deployment of a new category of resources that the author is defining as clean distributed energy resources, in order to provide a stable and reliable supply of electricity.

## EXPLANATION OF BILL'S IMPACT ON CPUC PROGRAMS, PRACTICE & POLICY

1. **The bill would create a new category of resources called Clean DER and would establish GHG reduction standards that are inconsistent with the methodology used in existing CPUC programs.**

The CPUC oversees many incentive programs for customer generators to serve onsite energy needs with preferred energy resources. This includes the net energy metering program (NEM) for renewable resources (as defined by Public Resources Code Section 25741(a)(1)), Self-Generation Incentive Program (SGIP) for systems that achieve CPUC-specified GHG emissions thresholds and the California Solar Initiative. The loading order sets renewable energy resources as the highest priority for generation resources as they are the lowest emission technologies available. NEM generators receive benefits that include exemptions from paying nonbypassable charges on self-supplied energy and from standby charges. Many clean distributed energy resources receive state financial incentives, such as through the Self Generation Incentive Program. The CPUC is currently implementing SB 861, which continues SGIP through 2020. As part of this implementation, Energy Division Staff has released a staff proposal to clarify eligibility for the program going forward. <u>Under the staff proposal, EtaGen, a leading proponent of the bill, would remain eligible to receive SGIP incentives.</u>

In addition, SGIP resources have been exempt from paying a subset of nonbypassable charges called the Cost Responsibility Surcharge (specifically, DWR bond charge and competitive transition charge) for up to the first 1 MW of generation. However, this exemption for SGIP resources is expiring as it is part of a set of exemptions that is subject to the Customer Generation Cap of 3000 MW[3].

<u>Creating a new category of resources that overlaps with existing categories but would have different greenhouse gas emissions requirements and different rate exemptions is not necessary and is inconsistent with California's loading order.</u>

AB 1530 amends Section 354 of the PU Code to define "clean distributed energy resource" as a facility that, among other requirements, has an emissions factor of 379 kg/MWh. This is contrary to the existing emissions factor in the SGIP - established in D. 15-11-027 – of 350 kg/MWh over ten years or 334 kg/MWh in year one.[4] AB 1530

[3] In February 2015, the Energy Commission notified the IOUs that the 3000 MW cap had been reached. Subsequently, the IOUs filed Advice letters to modify their Customer Generation Departing Load tariffs to eliminate this exemption

[4] CPUC Decision (D. 15-11-027), issued November 19, 2015. Available online at: http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M156/K044/156044151.PDF

would establish a new GHG emissions baseline as an eligibility threshold for Clean DERs, as opposed to using the existing methodology that the CPUC has developed for determining eligibility for SGIP and the NEM Fuel Cell tariff pursuant to PU Code Section 379.6Thus, AB 1530 would result in inconsistent definitions applying to the same technologies for multiple programs overseen by the CPUC.

Additionally, CPUC decision (D.15-11-027) not only revised the SGIP GHG emissions factor but established that it must decline annually (i.e. becomes more stringent) to reflect a cleaner grid pursuant to SB 350 goals.. Under the revised emissions factor, certain technologies may be on the border of meeting SGIP's GHG emissions targets and may not be eligible to participate in the program in future years due to more aggressive GHG requirements. This could be a motivating factor for certain technologies vendors to seek legislation that would create a static, less stringent definition of Clean DER based on GHG methodology that is inconsistent with existing CPUC programs. The bill would reduce the amount of nonbypassable charges and likely reduce the standby charges that eligible self-generating customers are required to pay. It is counterproductive to undermine the CPUC's decision on the appropriate GHG threshold through a bill that could provide rate benefits to certain technologies of which some are dirtier than the SGIP GHG factor.

AB 1530 would also establish a definition of Clean DER that could include technologies that the CPUC does not consider priority resources. For example, the CPUC recently determined that there is potential for combined heat and power (CHP) resources' inflexible baseload operations to exacerbate overgeneration and, as a must-take resource, cause curtailment of zero-emission generation. (D.15-06-028)

2. **Including NEM-eligible facilities in the definition of "Clean DER" may limit the CPUC's ability to modify NEM rules in the future but excluding them from the definition would prioritize non-renewable technologies over NEM resources.**

As written, NEM-eligible resources are included in the bill's definition of "Clean DER". Under AB 1530 a facility is defined as a "Clean DER" if it meets one of two sets of criteria. The phrase "Will not otherwise be addressed in the commission's implementation of Section 769 or 2827.1" is currently only included in one of the two sets of eligibility criteria. Unless this language is included in both sets of criteria, it appears that NEM-eligible facilities would be included in the bill's definition of "Clean DER". The CPUC has already established the rules for applying NBCs to NEM-eligible facilities (most recently in D.16-01-044) and those rules, or future modifications of them, should not be determined by this bill.

However, amending the bill to exclude NEM-eligible facilities from the definition of "Clean DER" is also problematic. PU Code Section 2827 limited eligibility for NEM to systems not more than 1 MW in size but Section 2827.1, which directed the CPUC to adopt a NEM Successor Tariff, allows systems over 1 MW to be eligible for the Successor Tariff. NEM-eligible facilities under 1 MW are exempt from paying a subset of nonbypassable charges called the Cost Responsibility Surcharge on energy produced and consumed onsite but this exemption does not extend to systems over 1

MW that will be eligible for the NEM Successor Tariff. Therefore, if NEM-eligible facilities are not included in the bill's definition of "Clean DER", NEM systems over 1 MW would be required to pay the Cost Responsibility Surcharge for energy produced and consumed onsite, while non-renewable technologies up to 15 MW in size would be exempt. Placing a much larger capacity cap on the non-renewable technologies included in the bill's definition of "Clean DER", prioritizes facilities with higher GHG emissions over NEM resources and is inconsistent with the spirit of the loading order.

**3. The bill would decrease the amount of nonbypassable charges recovered from and likely reduce the amount of standby charges paid by Clean DER customers.**

All utility customers pay nonbypassable charges as part of their electric rates. NBCs are used to fund low income and energy efficiency programs, as well as other programs that benefit all customers including departing load customers.[5] Currently, non-NEM customers who leave the utility by self-generating electricity are required to pay nonbypassable charges based on the expected production of their generator.

AB 1530 would reduce the nonbypassable charges paid by these customers by only requiring them to be paid on the customer's metered consumption. Most non-NEM customers who self-generate are also currently required to pay standby charges based on the capacity of the system. AB 1530 would require the IOUs to base standby charges on the calculated capacity needed to serve a customer's electrical demand during an outage of the Clean DER. This would likely reduce the amount of standby charges paid by these customers.

**4. The bill would not require a new CPUC rulemaking, or new tariffs.**

It does not appear that a new rulemaking or new tariffs are required to enact this bill. As written, the bill could be implemented within existing Commission proceedings, with conforming modifications to the existing utility tariffs.

**SAFETY AND RELIABILITY IMPACT**
Unknown.

**RATEPAYER IMPACT**

**1. Cost to Ratepayers are Unknown**

In June 2014, the Aspen Environmental Group issued a report, commissioned by EtaGen (a natural gas/biogas-powered internal combustion engine technology

[5] These charges support important programs that are used to benefit all customers, including NEM customers. They include: Public Purpose Program Charge, Nuclear Decommissioning Charge, Competition Transition Charge, New System Generation Charge, and Department of Water Resources bond charge. CCA and direct access customers also pay the Power Cost Indifference Amount.

developer), reviewing an analysis and conclusions made by EtaGen) that estimated savings to California IOU ratepayers from onsite distributed generation (DG). The EtaGen analysis purports to show that from 2010 through 2013, DG would have provided enough economic benefit to other ratepayers by reducing the CAISO market energy prices and reducing transmission and distribution (T&D) line losses to more than offset the value of "Departing Load Charges" (DLCs) that non-NEM DG customers are required to pay.

The CPUC is unable at this time to conduct an in-depth assessment of the validity of the analysis, however we can make several observations. The CPUC commissioned the 2013 NEM Report, which includes an assessment of a greater number of costs and benefits than CAISO market effect and avoiding T&D line losses, found that there is a cost-shift to non-participating customers. Based on the 2013 NEM Report, it is difficult to understand how the EtaGen analysis came to a conclusion that there is a benefit for non-participating customers based only on savings from the CAISO market effect and avoiding T&D line losses. Additionally, over the course of the development of the NEM Public Tool as part of the NEM Successor Tariff/Contract proceeding, E3 (an independent consultant) informally stated that the CAISO market effect from reduced demand from NEM DG is likely to be minimal and must be viewed conservatively for the following reasons:

- CA IOUs have forward contracted the vast majority of energy purchases (95%-100%) since the resolution of the energy crisis in the early 2000s.
- The market will adapt relatively rapidly to demand/supply conditions so that the price will not be in effect for the life of the DG project.

These points call into question the ability of a relatively simple model such as EtaGen's to prove that DG can provide a direct economic benefit through CAISO market price suppression alone that would be in excess of the DLC cost shift to non-participating customers.

Two recent independent studies demonstrate that the exemptions proposed by the bill are likely to have a relatively small ratepayer impact, however the extent to which this bill would impact the collection of specific nonbypassable charges requires further analysis.

On October 28, 2013, the Commission issued a report on the costs and benefits of the NEM program (2013 NEM Report), in compliance with AB 2514 (Bradford, 2012).[6] Included in the report is an estimation of the applicable avoided nonbypassable charges in each rate for all NEM customers. Using data from the 2013 NEM Report, the following tables illustrate the avoided fees for an example 1 MW non-residential system that could be installed as a result of this bill. Although NEM customers currently pay

[6] See http://www.cpuc.ca.gov/NR/rdonlyres/75573B69-D5C8-45D3-BE22-3074EAB16D87/0/NEMReport.pdf

nonbypassable charged based on their net usage (after accounting for onsite generation that is both consumed onsite and exported to the electric grid), it is expected that most CHP and fuel cell systems that would participate due to this bill would be designed to offset a customer's base load, meaning a similar level of exemptions from nonbypassable charges are expected to apply. For context, the amount of nonbypassable charges exempted from all participating NEM systems installed through 2012 (1,905 MW) was about 1.4% of the total public purpose charges collected by the IOUs in 2012, or .09% of the total utility revenue requirement.

**Table 1: Exempted Nonbypassable Charges for an Example 1 MW Non-Residential NEM System ($/year)[7]**

| Rate Component | | Annual Cost |
|---|---|---|
| Public Purpose Charge | $ | 21,147 |
| Nuclear Decommissioning Fund | $ | 641 |
| Competitive Transaction Funds | $ | 11,535 |
| Energy Cost Recovery | $ | 3,204 |
| DWR Bond Charge | $ | 7,690 |
| CPUC Surcharge | $ | 320 |
| CEC Surcharge | $ | 320 |
| CARE Surcharge | $ | 8,651 |
| **Total** | **$** | **53,508** |

In a separate study released by ICF International in May 2013,[8] an analysis on departing load charges (DLCs) for CHP indicates that exempting existing CHP systems from DLCs would add about a quarter of $1 million per kWh to other ratepayers.

**Table 2: Departing Load Charges Collected from Existing CHP Systems**

| Investor Owned Utility | PG&E | SCE | SDG&E | IOU Total |
|---|---|---|---|---|
| Applicable CHP Capacity (MW) | 227 | 380 | 76 | 683 |
| Total CHP DLCs (Million $) | $19.2 | $27.9 | $3.7 | $50.8 |
| Utility Sales Forecast (GWh) | $85,663 | $85,758 | $20,809 | $192,230 |
| Ratepayer Impact ($/kWh) | $0.00022 | $0.00033 | $0.00018 | $0.00026 |

While both of these studies demonstrate that the exemptions proposed in AB 1530 are likely to have a relatively small ratepayer impact, the extent to which this bill would impact the collection of specific nonbypassable charges requires further analysis.

[7] 2013 NEM Report, Chapter 6, and the E3 NEM Summary Public Model

[8] See ICF's 2013 Report on *The Effect of Departing Load Charges on the Costs and Benefits of Combined Heat and Power*: http://chpassociation.org/wp-content/uploads/2013/06/Impact-of-DLCs-on-CHP-Economics-Final-Report-Clean-Copy-R4.pdf

## FISCAL IMPACT
This bill would require a modest expansion of existing CPUC workload and could be processed with current resources. The changes required by this bill would require updates to the utility tariffs on departing customer generation load and standby charges. The CEC is identified as the primary author of the reports required by this bill.

## ECONOMIC IMPACT
It is unclear whether this bill will result in additional economic impact above the existing set of policies designed to support self-generation. However, the bill would reduce the nonbypassable charges that eligible (non-NEM) customers would pay. It would also change the way standby charges are currently calculated, likely reducing the amount of standby charges paid by non-NEM CleanDER customers. These changes would likely improve the economic proposition for nonrenewable-fueled technologies, such as fuel cells and CHP systems.

## LEGAL IMPACT
Unknown.

## LEGISLATIVE HISTORY
AB 674 (Mullin) was introduced in February 2015 and was held in committee in May 2015. AB 1530 is essentially the same bill as AB 674 (much of the language is identical) with a few modifications.

## PROGRAM BACKGROUND
The CPUC oversees a range of complementary policies that support self-generation under existing state laws:

1. Incentives through the California Solar Initiative (CSI) and SGIP: The CSI program provided incentives for solar PV systems up to 1 MW (and allows systems up to 5 MW), with the exception of certain state-owned facilities (per AB 2724, 2010). SGIP provides incentives to wind turbines, fuel cells, combined heat and power (gas turbines, micro-turbines and internal combustion engines), waste heat capture, small conduit hydro, advanced energy storage, and pressure reduction turbines. Both programs are designed to reduce a customer's onsite load.

2. Simplified Interconnection: Reduced interconnection costs are available under utility Rule 21 tariffs that exempt qualified self-generation renewable energy systems under 1 MW from most studies and fees. Rule 21 also offers these systems accelerated interconnection timelines. Separately, the CPUC exempted renewable self-generation systems from standby charges in 2003.

3. Net Energy Metering: Per PU Code 2827, NEM customer-generators who take service from the investor-owned utilities (IOUs) have their monthly net generation valued at the full retail rate at the time the energy is exported, and may elect to receive compensation of any net surplus generation above annual load. PU Code 2827.10 sets out a separate program for eligible fuel cell customer-generators that have their

monthly net generation valued at the generation rate only. An installed NEM project provides a subsidy to the customer-generator that will be of increasing importance to new customer-generators as CSI and SGIP incentives decline. Pursuant to AB 327 (Perea, 2013), the CPUC must design a new tariff or contract to replace the current NEM program by December 31, 2015. The current NEM tariff will be available for new customers in a given utility service territory until the earlier of July 1, 2017, or until the capacity of NEM systems reach five percent of the utility's "aggregate customer peak demand" (Public Utilities Code Section 2827(c)(1)). AB 327 further clarifies that the five percent NEM cap is the sum of individual customers' non-coincident peak demands.

4. Other Renewable Procurement Programs: The Renewable Auction Mechanism (RAM) is a simplified market-based procurement mechanism for renewable distributed generation (DG) projects greater than 3 MW located on the system side of the meter. The Commission adopted RAM in Decision (D.) 10-12-048 as the primary procurement tool for system-side renewable DG because it promote competitions, elicits the lowest costs for ratepayers, encourages the development of resources that can utilize existing transmission and distribution infrastructure, and contribute towards the Renewables Portfolio Standard goals in the near term. RAM streamlines the procurement process by simplifying the contract process for developers, utilities and regulators.

5. Combined Heat and Power Procurement: Commission D.10-12-035 adopted a compressive settlement for Qualifying Facilities and Combined Heat and Power that directed the Investor-Owned Utilities (IOUs) to procure a minimum of 3,000 MW of CHP in order to reduce 6.7 million metric tonnes (MMT) of GHG emissions by 2020, consistent with the Air Resources Board (ARB) AB 32 Climate Change Scoping Plan. Progress towards these MW and GHG reduction targets are tracked through semi-annual CHP program reports.

**OTHER STATES' / JURISDICTIONS' INFORMATION**

According to the bill, among states with similar energy prices and environmental goals, California is the only state that allows electrical corporations to apply nonbypassable charges to electricity produced and consumed onsite.

**SUMMARY OF SUPPORTING ARGUMENTS FOR RECOMMENDATION**

This bill should be opposed for the following reason(s):

(1) The Self Generation Incentive Program (SGIP) already provides incentives to non-solar, GHG reducing, customer-sited generation and it is not clear that the additional incentives proposed in the bill are necessary.
(2) The SGIP uses a more stringent GHG standard than the one proposed in this bill; technologies supported by this bill would likely increase GHGs.
(3) It is unclear if the bill will be effective at facilitating future clean energy investments or further reducing GHG emissions.

## SUMMARY OF SUGGESTED AMENDMENTS
None.

## STATUS
Pending consideration in the Senate Environmental Quality Committee.

## SUPPORT/OPPOSITION
Support:

- TechNet (Source)
- Audubon California
- Bloom Energy
- Capstone
- Caterpillar
- CenturyLink
- DE Solutions
- Doosan Fuel Cell America
- Equinix
- EtaGen
- LG
- n2 Integrated Energy Solutions
- OHR Energy
- Prime Healthcare Services
- Silicon Valley Leadership Group
- Solar Turbines
- Tecogen
- Techni-Cast Corp.
- Verizon
- Western Energy Systems

Opposition:

- California Coalition of California Utility Employees
- California Manufacturers & Technology Association, unless amended
- California State Association of Electrical Workers
- California State Pipe Trades Council
- Pacific Gas & Electric Company
- San Diego Gas & Electric Company
- Southern California Edison
- The Utility Reform Network
- Western States Council of Sheet Metal Workers

## VOTES
Senate Energy, Utilities, and Communications Committee: 6-4

Prior votes not relevant.

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**BILL LANGUAGE**
AB 1530 (Levine), as amended April, 26, 2016: 'Electricity: distributed generation' can be viewed online at
http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB1530